

PORTFOLIO

OMARDAWOUD
BARTLETT SCHOOL OF ARCHITECTURE
A COLLECTION OF CREATIVE WORKS

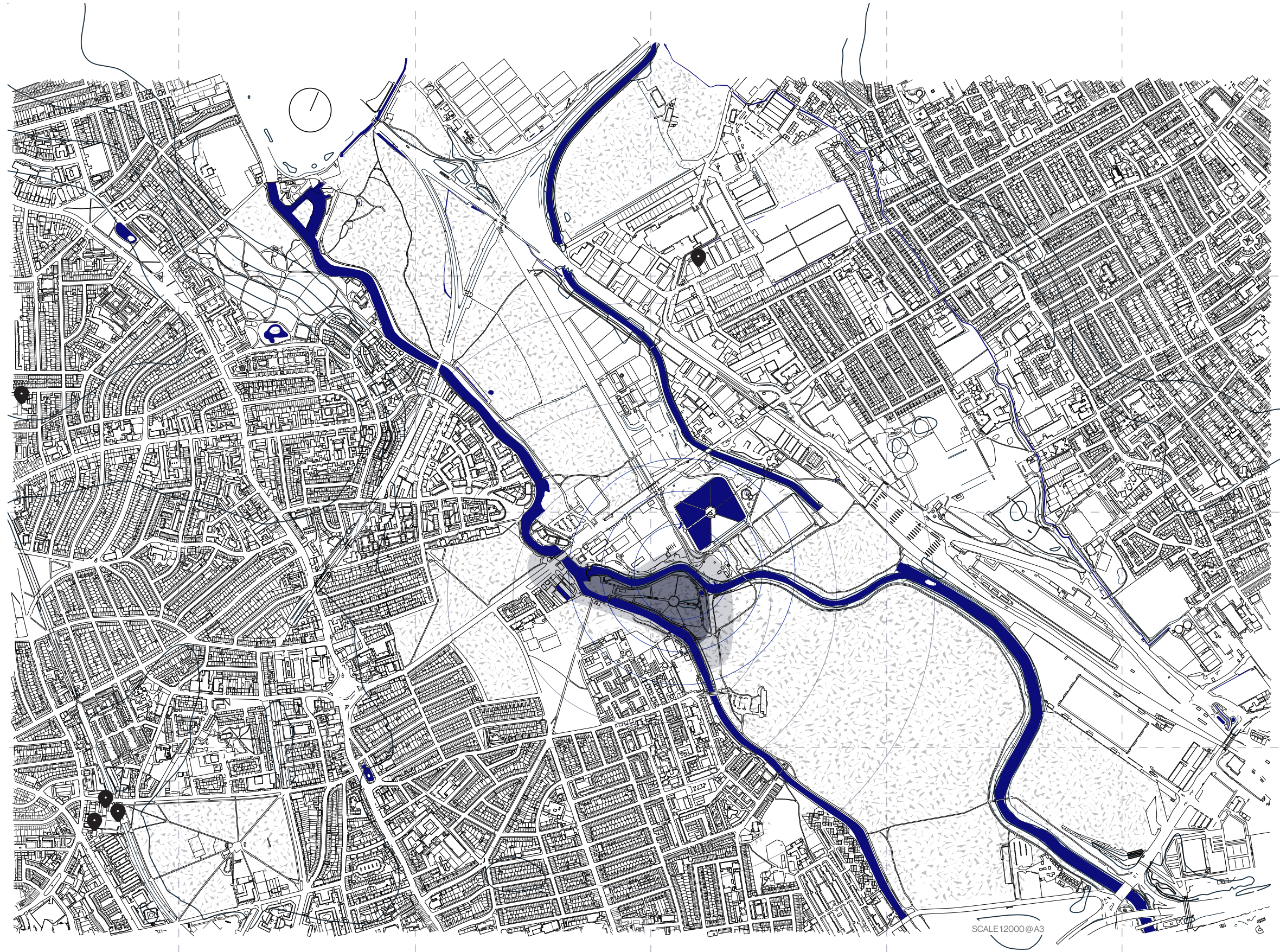
CHAPTER 1

**CLAYBANK
POTTERY SCHOOL**

THIS PROJECT REPRESENTS THE CULMINATION OF A YEAR-LONG EXPLORATION INTO ARCHITECTURE AS A LIVED, CRAFTED, AND ENVIRONMENTALLY ATTUNED DISCIPLINE. WHAT BEGAN AS A RESPONSE TO A SITE DEFINED BY WATER, MEMORY, AND WILDERNESS HAS GROWN INTO A PROPOSAL FOR AN INHABITABLE BRIDGE—ONE THAT UNITES THE POETIC WITH THE PRACTICAL, THE STRUCTURAL WITH THE SPATIAL, AND THE PERSONAL WITH THE PUBLIC. THROUGH CONTINUOUS ITERATION—ACROSS SKETCHES, DIGITAL MODELS, ENVIRONMENTAL ANALYSIS, AND MATERIAL TESTING—THE BUILDING HAS EVOLVED INTO A NARRATIVE OF MAKING. ITS LAYERED SYSTEMS OF TRUSS, ARCH, CLAY, AND CANOPY SPEAK TO THE INTEGRATION OF ENGINEERING AND ARCHITECTURE AS CO-AUTHORS IN THE DESIGN PROCESS. EACH DECISION, FROM THE PLACEMENT OF A SKYLIGHT TO THE TEXTURE OF THE WALL, IS ROOTED IN AN UNDERSTANDING OF ATMOSPHERE, CONSTRUCTION, AND THE LIVED EXPERIENCE OF SPACE. ULTIMATELY, THE PROJECT OFFERS MORE THAN A BUILDING—IT PROPOSES A WAY OF INHABITING: ONE THAT LISTENS TO THE RIVER, RESPONDS TO THE SITE, AND FRAMES ARCHITECTURE AS A CONTINUOUS ACT OF CARE, ADAPTATION, AND CRAFT. IT IS A QUIET BUT RADICAL PROPOSITION FOR HOW WE MIGHT DWELL, CREATE, AND CONNECT WITHIN THE LANDSCAPES WE SHAPE AND ARE SHAPED BY.

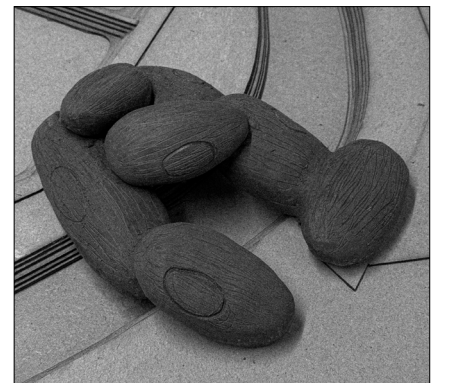


BUILDING SITE - MIDDLESEX FILTER BEDS & LEA

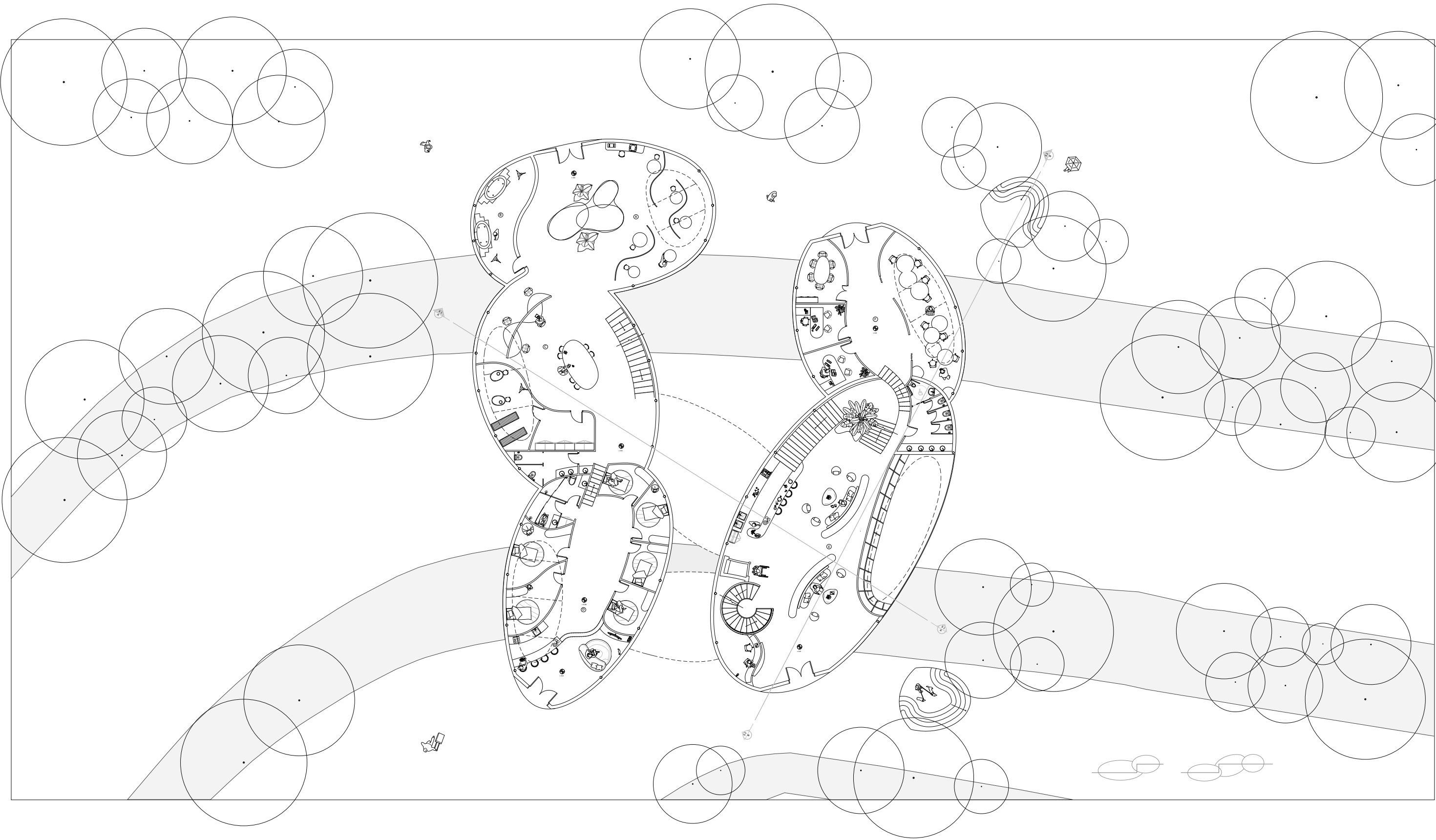


Through a detailed site analysis of the Middlesex Filter Beds in Hackney, London, I gathered all the essential information to inform my design process — including wind patterns, sun path, temperature data, ground elevations, and surrounding context. This rigorous study provided a clear foundation for thoughtful architectural decisions. I was particularly drawn to the site's relationship with water and its historical identity as a working filter bed, which continues to shape its character today.

The site analysis began with a large-scale site plan situating the proposal within the broader context of the River Lea and the Middlesex Filter Beds Nature Reserve. The river is treated not as a boundary, but as the primary spatial and conceptual driver of the project. Existing pottery workshops along the Lea were mapped to reveal a latent network of craft already embedded within the area, positioning the building as both continuation and connector. Beyond this, sectional studies explored the relationship between ground, water level, and topography, while physical models tested massing in response to flow and erosion. Environmental analysis informed orientation and form, examining sunlight exposure, prevailing winds, water movement, accessibility routes, surrounding neighbourhoods, historical layers of the site, agricultural traces, and patterns of public use. Together, these investigations grounded the project in its physical, social, and ecological context, allowing the architecture to emerge directly from the forces shaping the site.



BUILDING PLAN - JOURNEY THROUGH THE LIFE OF CLAY



The floor plan unfolds as a journey through the life of clay — from wet earth to fired vessel. Beginning at the entrance, it guides local pupils through wet workshops, studios, and finally the kiln, while the technicians' living spaces embed care and continuity into the daily rhythm of making.

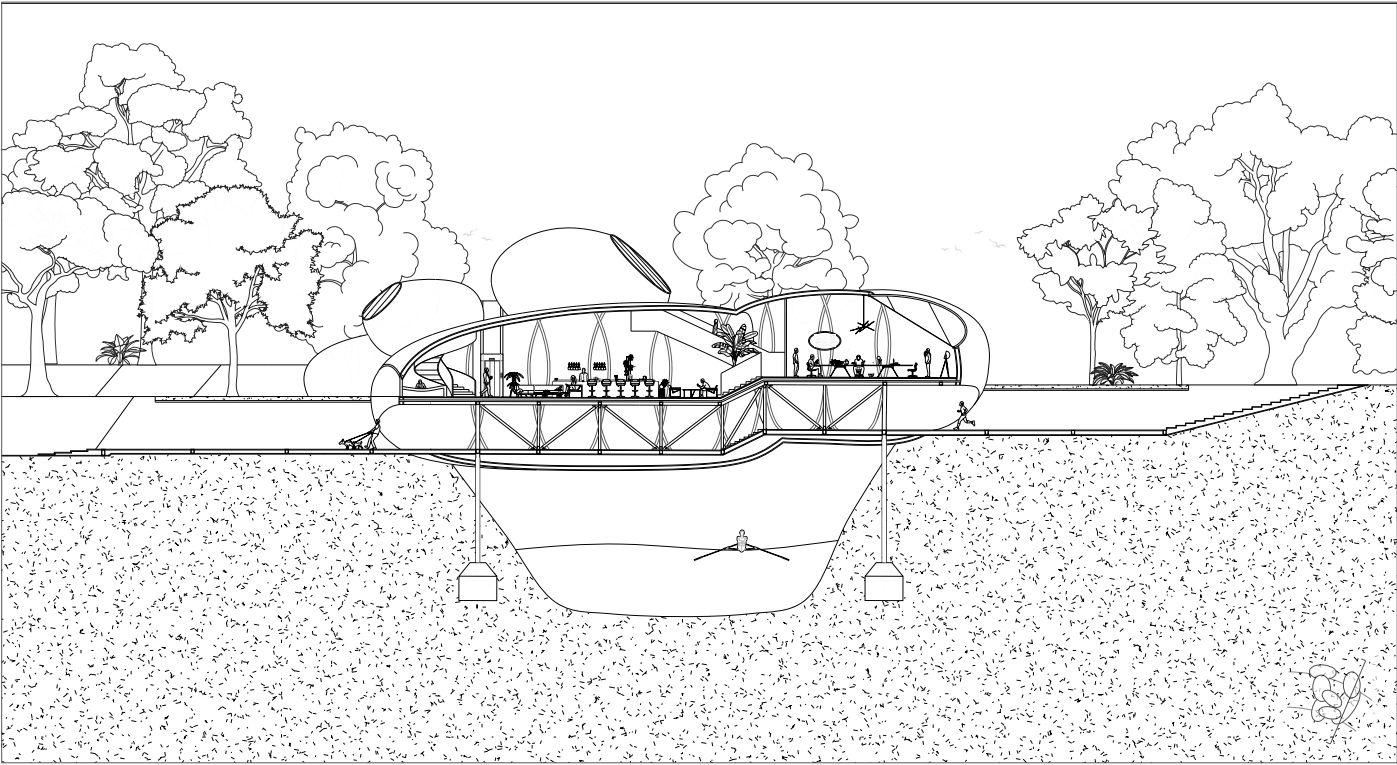
Space Index: A: Wet Workshop, B:Kiln, C:Main, Workshop, D:Living Space, E:Lobby Space, F:Studios, G:Gallery, H: Creativity Hub

SCALE: 1:450



BUILDING SECTIONS - INHABITATION AND USE SEEN

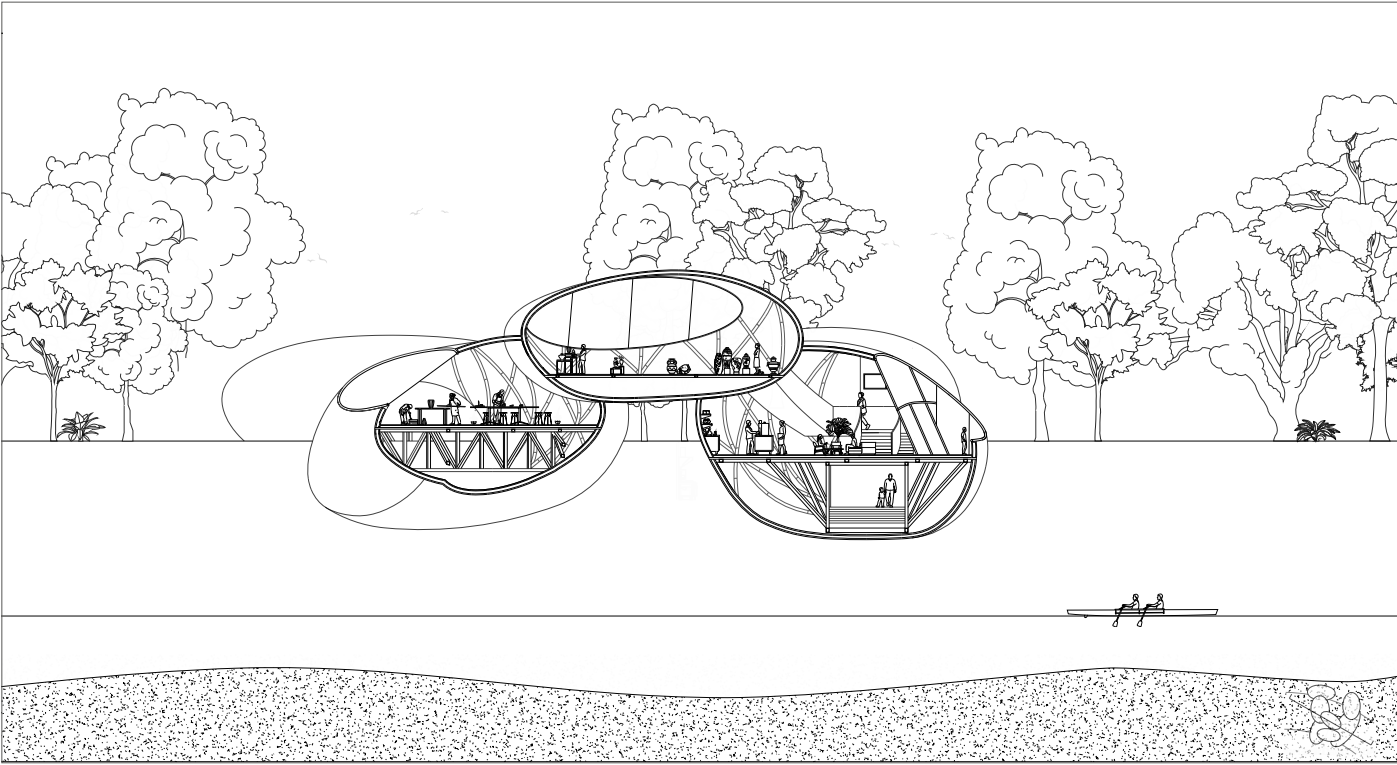
MAIN BUILDING SECTION



- A. Lobby to allow visitors to enjoy their time before seeing pupils' work
- B. Studios to design, develop, and finalise pottery designs
- C. Bridge Design to allow the public to cross the river

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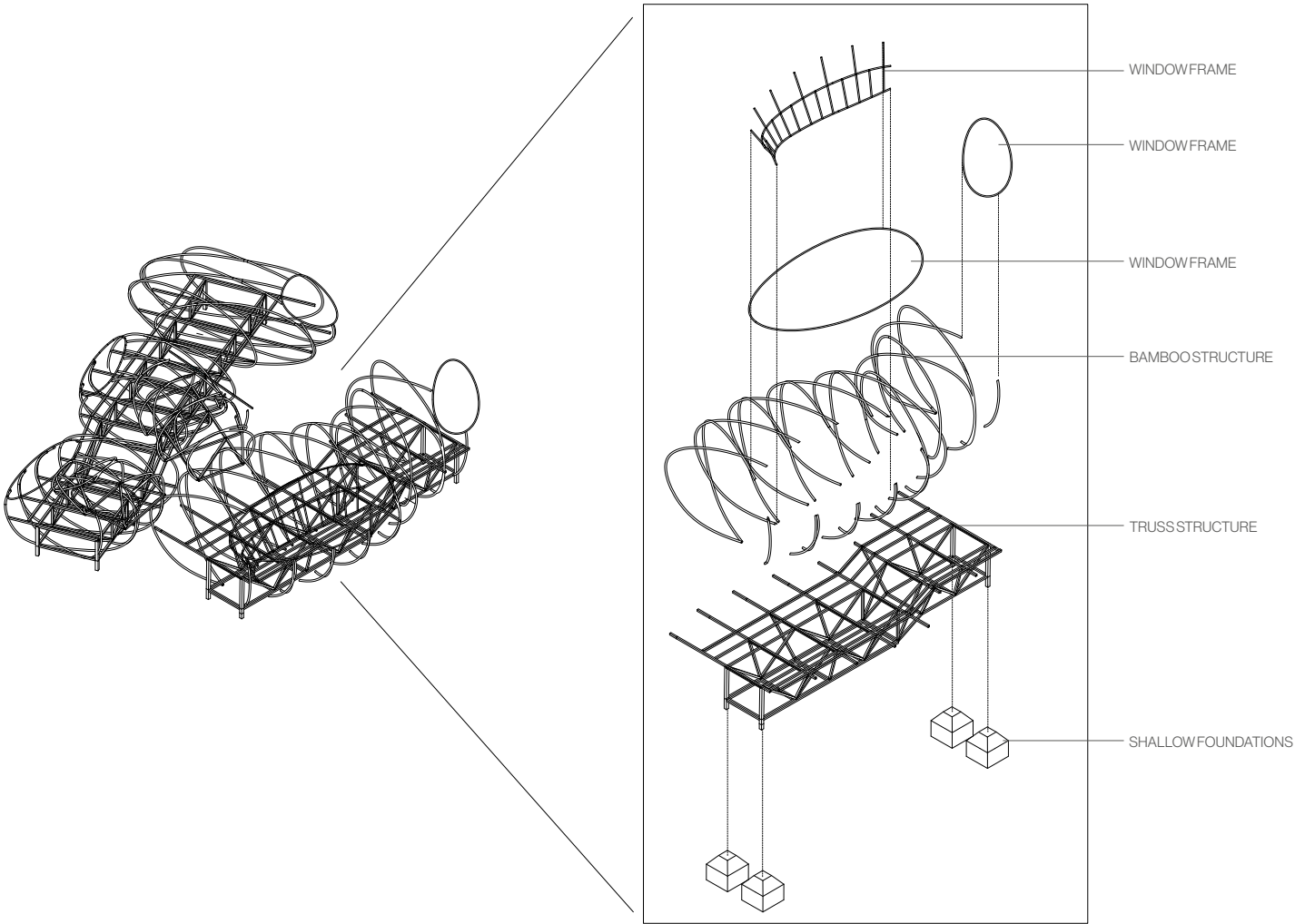
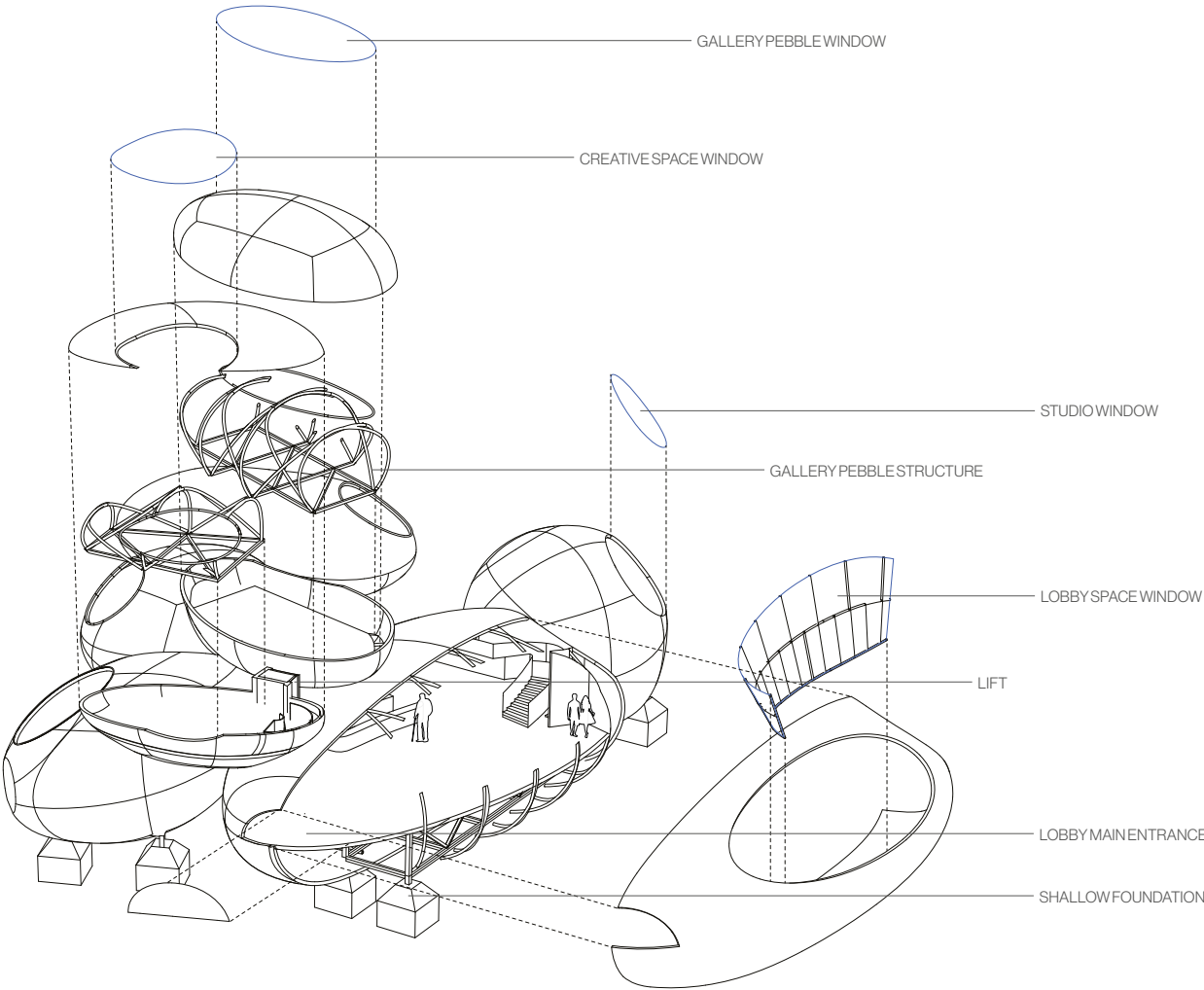
SECONDARY BUILDING SECTION



- A. Workshop to allow the interplay between environmental elements and artistic expression
- B. Gallery Space to house and showcase prominent works of pupils
- C. Communal lobby to assist and strengthen the emotional discourse between the public and students
- D. Bridge Design to allow the public to cross the river

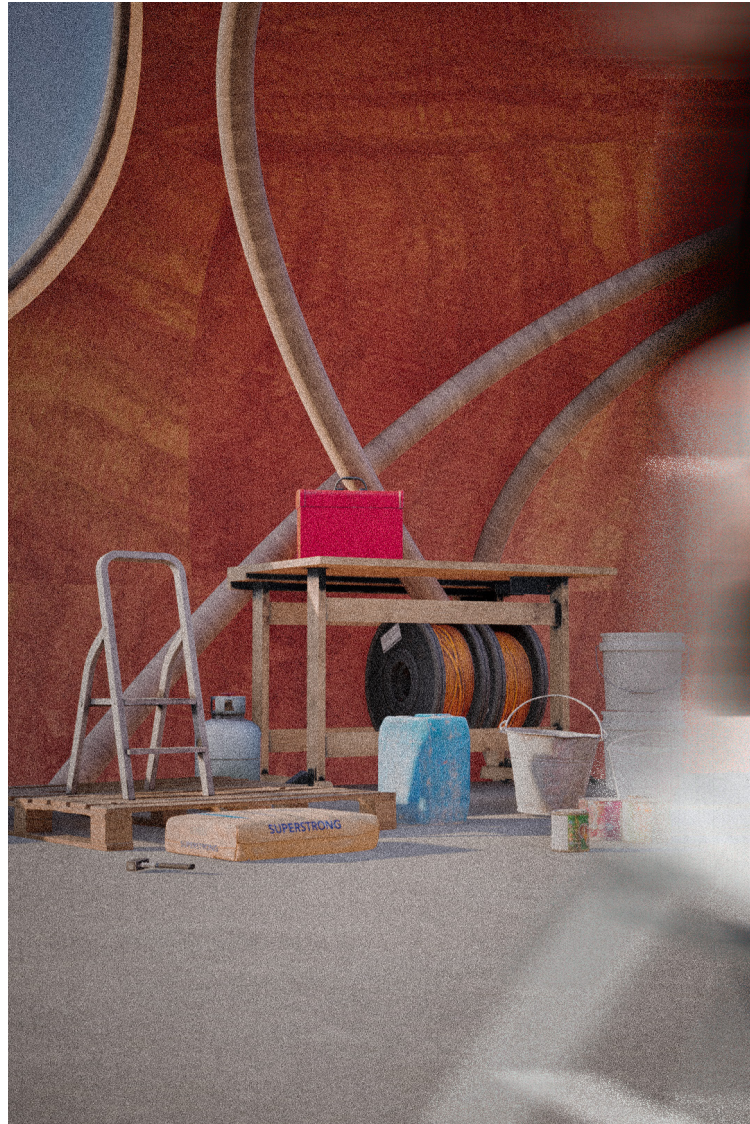
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STRUCTUREANDAXO - ANALYSISANDCALCULATINGBUILDINGFABRICATION



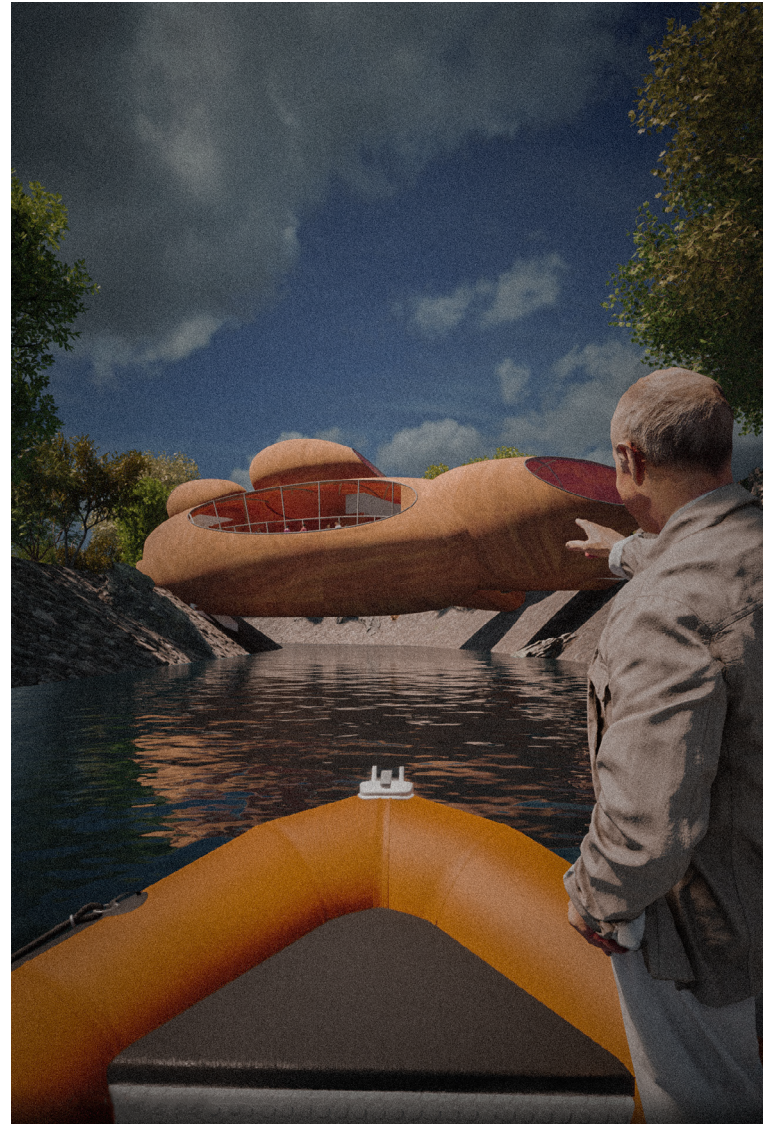
The building's structure is constructed of looping bamboo arches, which give the spaces' their pebble shape, and holds them in place. The arches then sit on the main structural element of the building - The steel truss bridge. The bridge is specifically designed to have thick steel cross sections to allow for a hollow gap in its middle, which is the public bridge. This structural analysis has been edited and verified using Karamba 3D.

Element	Load (kN)	Capacity (kN)	Sizing
Bottom Chord (Steel Truss)	40429	45510	3 - HSS 600 - 600 - 25 mm
Top Chord (Steel Truss)	40429	45510	3 - HSS 600 - 600 - 25 mm
Diagonal Members (Steel Truss)	2604	3070	HSS 250 - 250 - 12.5 mm
Bamboo Arches	752	972.45	Diameter 150 mm
Total Load on Foundation	47282.88	N/A	Dispersed across 8 footings
Shallow Foundation Block	5910.36	5910.792	Footing Area: 9.7 m2 Height: 3.11 m

BUILDING SNAPSHOTS - USERS EXPERIENCE POTTERY

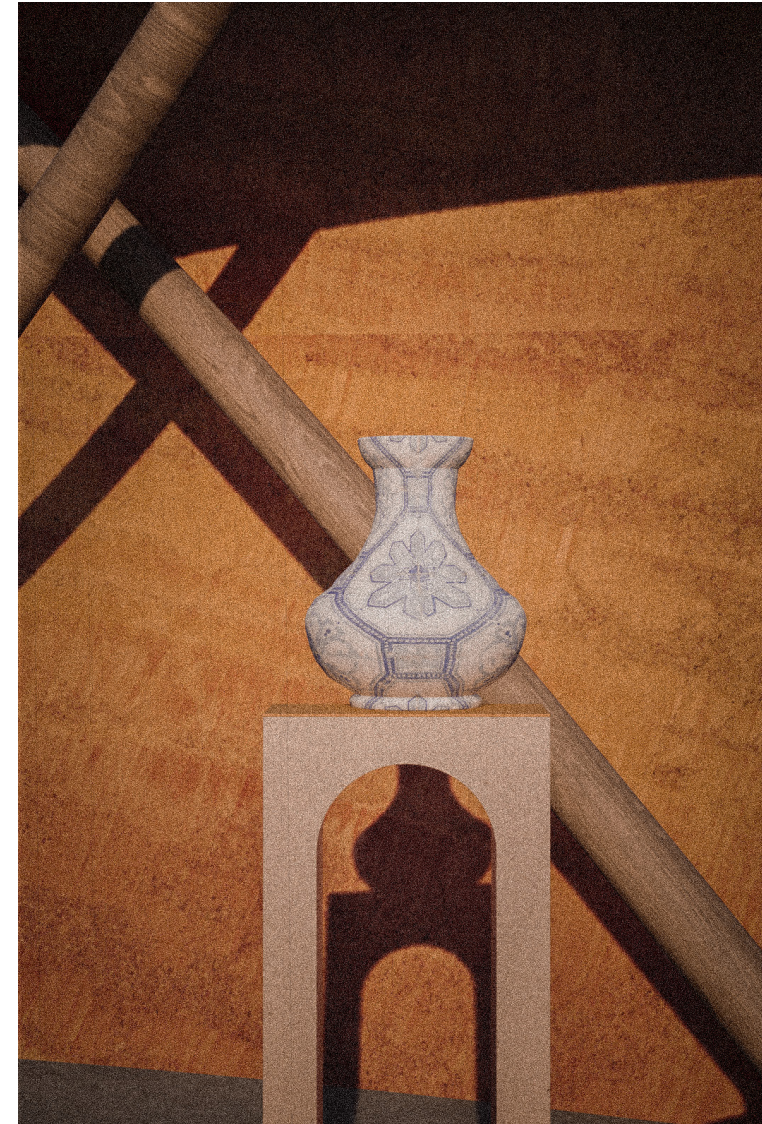
REFERENCE WORKSHOP

"In the chaos of clay and the dust, the workshop breathes - every splatter and scrape a testament to hands learning to shape more than just vessels"



APPROACH FROM LEA

"drifting past on the canal, the pottery school rises like a kiln in repose - its bamboo bones whispering craft, care, and second chances"



INSIDE THE GALLERY

"staring into the pot, i see not only clay, but a quiet echo of hands, time, and fire - holding memory in stillness"

These renders are framed as fleeting moments — snapshots taken by those who inhabit the building rather than images composed from a distance. They capture fragments of experience: the controlled chaos of the workshop where clay moves through many hands and many stages at once; the quiet pause of the gallery where a single vessel holds the weight of its making; the view from a small boat drifting along the River Lea, where the building reveals itself as a series of pebble-like forms resting lightly over the water.

But beyond these glimpses, the project is about process. It is about earth lifted from the ground, softened, shaped, cracked, refined, and finally hardened by fire. It is about pupils gathering after school, learning not only technique but patience — understanding that erosion, pressure, and time are not destructive forces but formative ones. The architecture mirrors this journey: carved volumes, rounded edges, and layered materials shaped as if by current and sediment, translating the language of the river into built form.

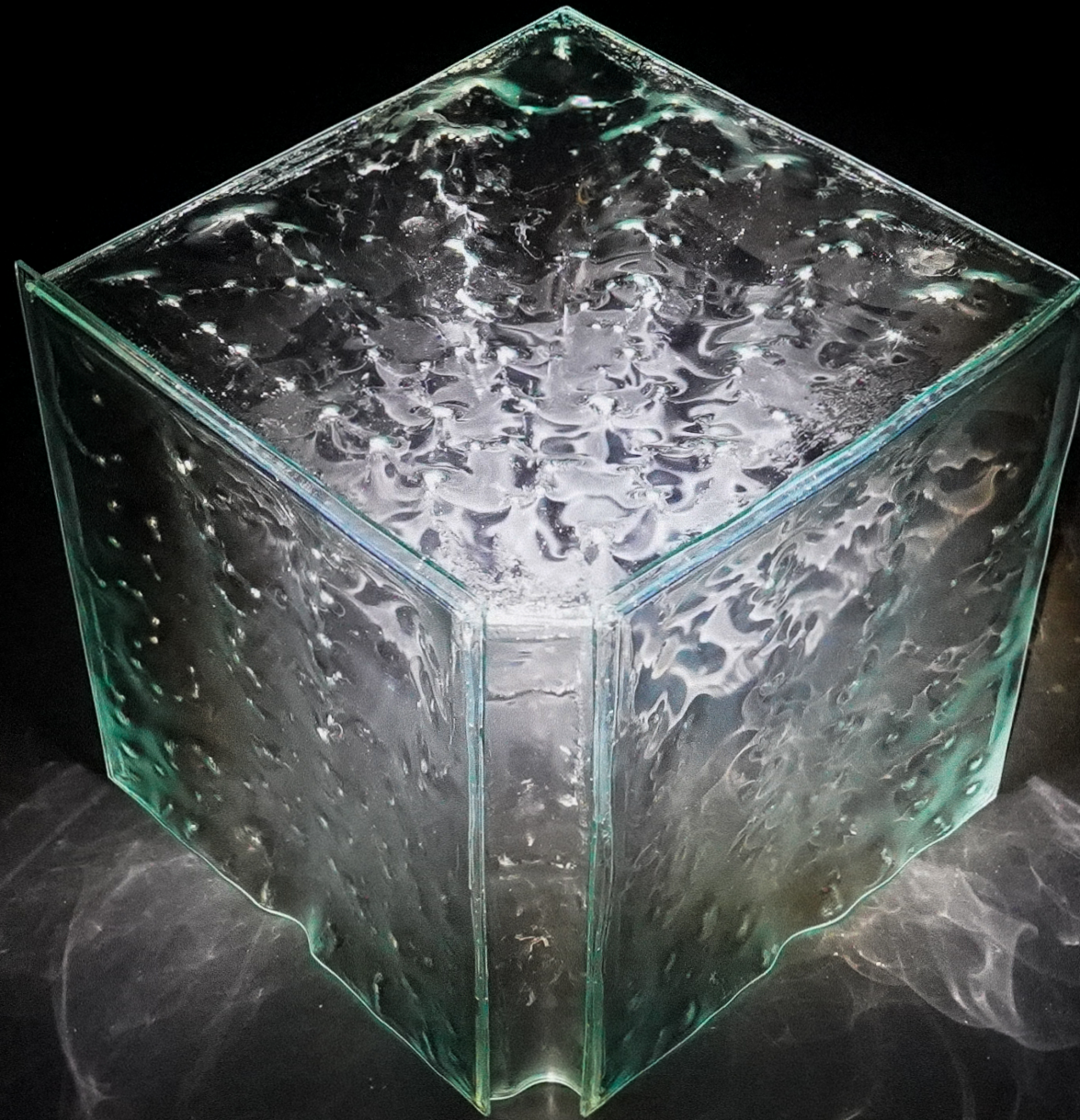
Spanning the Lea at a point where no other crossing exists nearby, the building quietly becomes a bridge for the public — a necessary passage woven into daily life. Yet its deeper role is not simply to connect two banks, but to connect people to material, to landscape, and to one another. Water flows beneath, fire burns within, and clay passes through hands above. The gallery holds the outcomes; the workshops hold the labour; the river holds the memory of erosion that inspired it all. Together, they form a place where making is movement, and crossing is transformation — a structure that stands over the Lea not as an imposition, but as something shaped by the same forces that shaped the pebbles below.

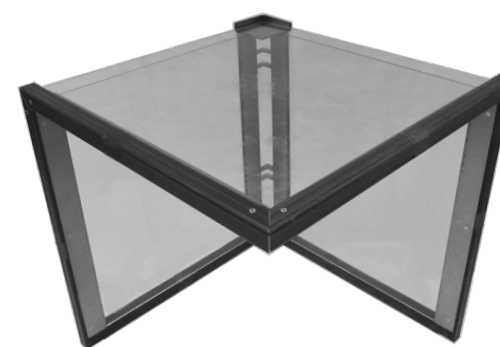
ASSEMBLING LIGHT

THIS PROJECT BEGINS WITH THE CAREFUL READING OF A SINGLE ARCHITECTURAL DETAIL: THE CORNER WINDOW OF THE MUSEO CANOVA DI POSSAGNO BY CARLO SCARPA. RATHER THAN TREATING IT AS A STATIC OBJECT, THE WINDOW IS UNDERSTOOD AS A NEGOTIATION BETWEEN STRUCTURE, MATERIAL, LIGHT, AND GRAVITY — A MOMENT WHERE ARCHITECTURE REVEALS HOW IT IS MADE. THE PROCESS STARTS WITH DOCUMENTATION AND REDRAWING, DISSECTING ITS GEOMETRY AND ASSEMBLY LOGIC, AND MOVES TOWARD A FULL RECONSTRUCTION. THROUGH CALCULATION, MODELLING, AND FABRICATION, A FULLY DISASSEMBLABLE STEEL FRAME IS PRODUCED AT 1:3 SCALE — PRESERVING SCARPA'S TECTONIC CLARITY WHILE ASSERTING A MEASURED REINTERPRETATION.

THE PROJECT THEN SHIFTS FROM RECONSTRUCTION TO TRANSFORMATION. GLASS BECOMES THE FOCUS: NO LONGER FLAT AND PASSIVE, BUT SHAPED THROUGH CNC-MILLED WOODEN NEGATIVES AND SECONDARY PLASTIC MOULDS INTO FOUR SLUMPED PANELS. THESE PIECES ARE ENGINEERED TO REFRACT SUNLIGHT INTO THE INTERIOR WHILE GUIDING RAINWATER ALONG CARVED CHANNELS THAT DIVIDE INTO THREE CONTROLLED DRAINAGE STREAMS. THE PANELS ARE UV-BONDED TO FORM A FULLY GLASS CORNER WINDOW, DISSOLVING VISIBLE JOINTS AND ALLOWING LIGHT TO ACT AS A STRUCTURAL PRESENCE.

THE FINAL WORK STANDS AS BOTH CONTINUATION AND DEPARTURE — A RECONSTRUCTION OF SCARPA'S CORNER DETAIL AND A RE-ARTICULATION THROUGH CONTEMPORARY CRAFT. IT IS A MEETING OF STEEL PRECISION AND FLUID GLASS, WHERE MAKING, MATERIAL BEHAVIOR, AND ENVIRONMENTAL FORCES CONVERGE WITHIN A SINGLE ARCHITECTURAL CONNECTION.



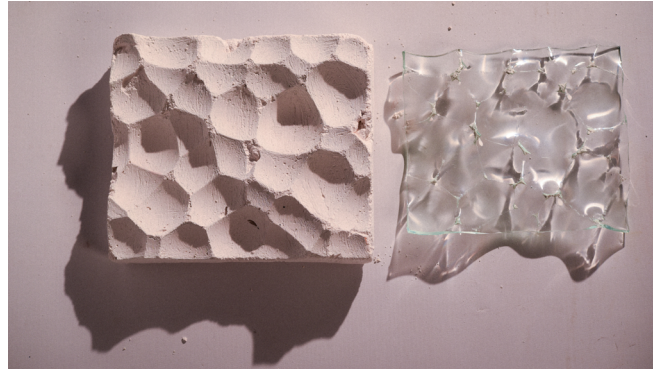
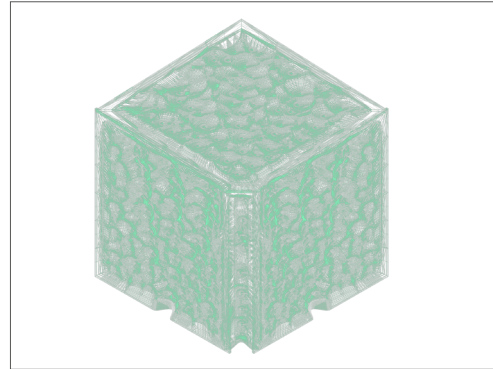


MANUALE DI MANUTENZIONE - THE ORCHESTRATION OF THE WINDOW

The reconstruction of Scarpa's corner window began with a close analytical reading of the original detail — studying its proportions, layered frame logic, and the way projection, glazing, and structure are articulated at the corner. Through measured drawings and calculated reinterpretation, the window was rebuilt as a fully disassemblable steel assembly, preserving the tectonic clarity and precision of Scarpa's connection. This phase was not a replication, but a reconstruction: an attempt to understand the intelligence of the detail by remaking it, piece by piece, until its structural and spatial logic became physically legible. Shown in the code here is the manual and process of the window construction. It is designed to fully assemble by 2 craftsman using only an alan key in 30 minutes.



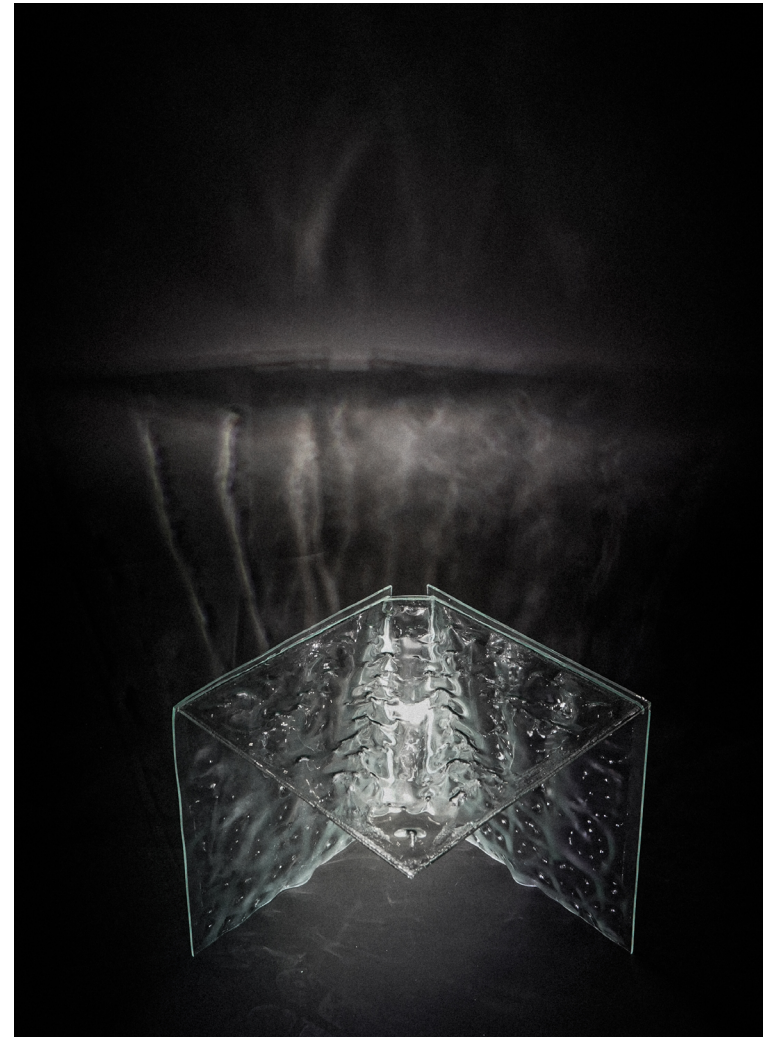
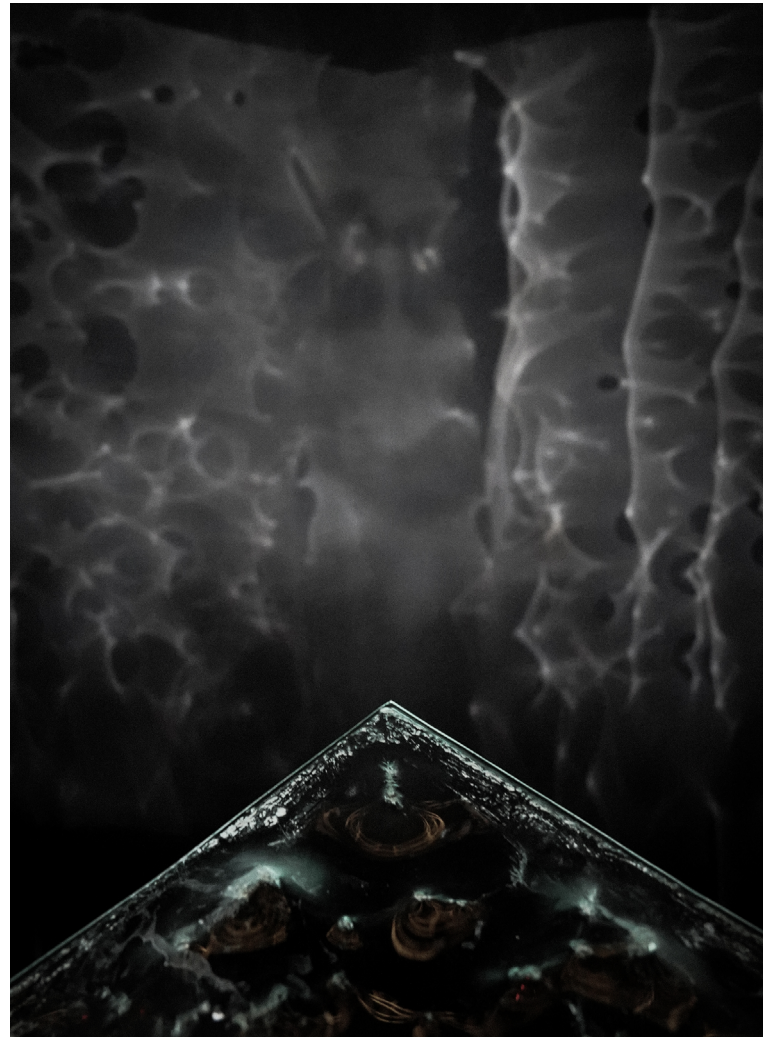
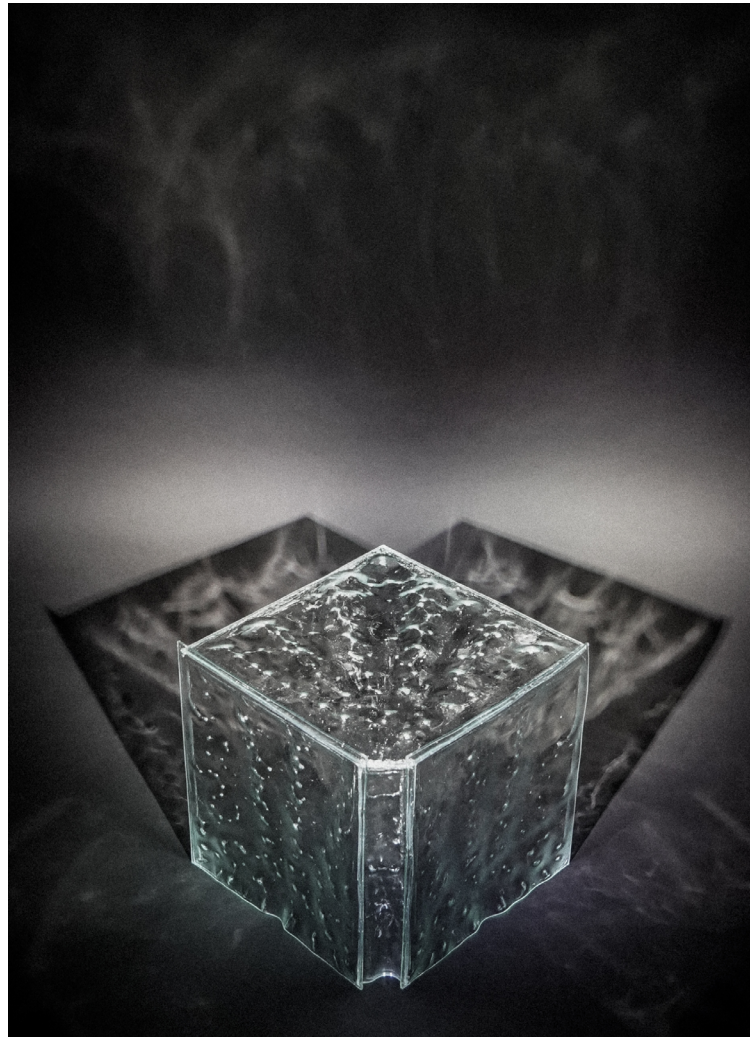
ITERATION AND IMPROVEMENT - THE SCARPA WINDOW IS DEVELOPED



In this second stage, the corner window moves from reconstruction to transformation. The detail is reimagined through slumped glass — not as a flat enclosure, but as a surface capable of bending light and guiding water. The panels are shaped to refract sunlight into the interior, casting fluid, water-like patterns that shift throughout the day. Simultaneously, their geometry is carved to channel rain into three precise drainage paths, allowing water to travel deliberately across the surface before leaving the frame. Light and water become active agents within the detail.

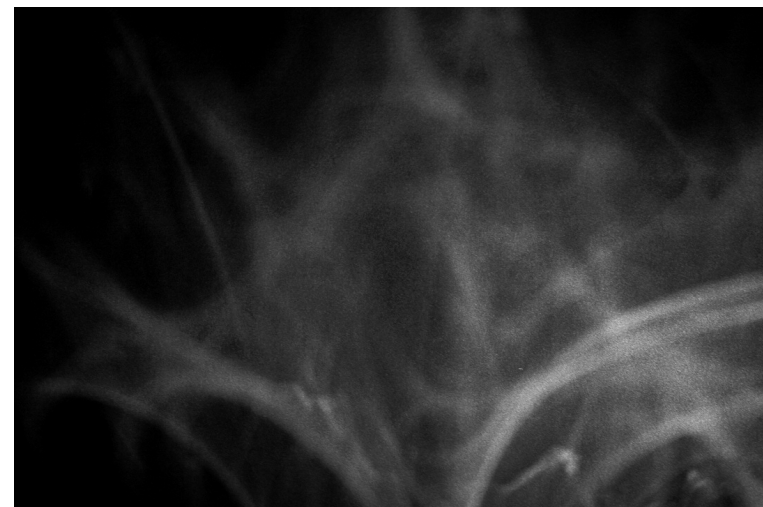
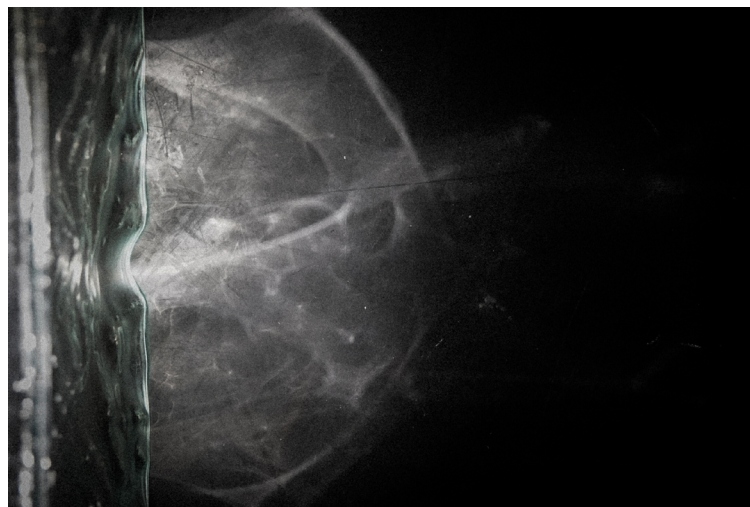
The process follows a careful craft sequence. The surface is digitally modelled, 3D printed, and plaster-cast to create a precise negative mould. A flat sheet of glass is then fired over the mould in the kiln, where heat and gravity form it into shape. Through iterative tests, curvature and flow lines are refined to calibrate both refraction and drainage — preparing the way for the larger corner assembly to come.



ALL GLASS SPECTACLE - CORNER WINDOW FOR LIGHT AND WATER

The final corner window is constructed entirely from glass, transforming the original steel-framed reconstruction into a transparent, bonded assembly. The process begins with a CNC-milled wooden negative, precisely carved to define the surface geometry of each panel. From this, plaster moulds are cast to capture the contours required for slumping. Flat sheets of glass are then placed over the moulds and fired in the kiln, where heat and gravity gradually pull the material into its designed form. After cooling, the edges are carefully sanded and refined to ensure accuracy and alignment. The four slumped panels are then UV-bonded together, eliminating visible mechanical fixings and allowing the corner to read as a continuous crystalline volume — a structure held together by adhesion and precision rather than frame.

In its final state, the window operates as an instrument of light and water. The calibrated curvatures refract sunlight into fluid, shifting projections that animate the surrounding surfaces, producing patterns reminiscent of moving water yet entirely governed by geometry. The same surface logic that bends light also guides rain: subtle channels gather and direct water into three controlled drainage streams, allowing it to travel deliberately across the glass before descending. The window therefore becomes both optical and environmental — a corner where gravity, light, and material behaviour are made visible, and where the architectural detail performs rather than merely encloses.

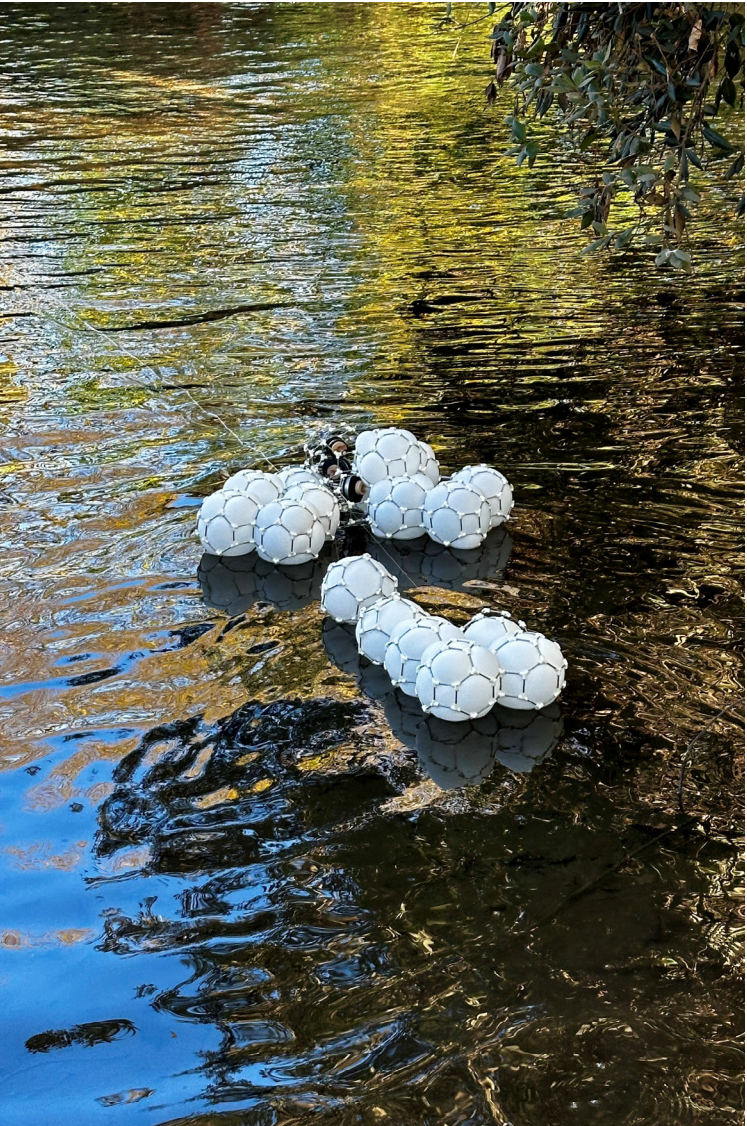


THE TRACKING ORBS

THE OBJECTIVE OF THE PROJECT IS TO STUDY THE FACTORS AFFECTING THE ENVIRONMENT FOR AN ASSIGNED SITE AT MIDDLESEX FILTER-BEDS, NEAR HACKNEY MARSHES LONDON. THE RIVER LEA FLOWS FROM THE NORTH TO SOUTH OF ENGLAND IS A MAIN ELEMENT OF THAT SITE, AND WHAT CHOSEN TO BE EXPLORED. THE QUALITY OF WATER IN THE RIVER IS ONE OF THE MAIN FACTORS THAT AFFECT THE ENVIRONMENT AT THE SITE. AFTER A LONG ITERATIVE PROCESS THE DEVICE SHOWN ABOVE HAS BEEN METICULOUSLY DESIGNED AND CAREFULLY BUILT. THE DEVICE CONSISTS OF TWO PARTS: A MAIN LAUNCHER AND 3 SETS OF BALLS WITH SENSORS. THE DEVICE IS PLACED INTO THE FLOWING RIVER, WHICH WOULD DRIVE THE BALLS AWAY FROM THE LAUNCHER AS THE WATER FLOWS. THE BALLS HAVE SENSORS IN THEM WHICH WOULD TRACK THE FLOW OF THE BALLS IN THE RIVER AND GIVE US THIS SET OF DATA: VELOCITY, ACCELERATION, AND FLOW PATH OF WATER (POSITION OF THE BALLS). THIS WOULD THEN GIVE AN ESTIMATE ON THE OXYGEN LEVELS IN DIFFERENT AREAS IN THE RIVER. THIS DATA IS USED TO THEN FIND AREAS IN THE RIVER TO TREAT, FOR EXAMPLE: ALGAE AND MICRO-ORGANISMS COULD BE ADDED TO AREA WITH HIGH FLOWRATE.



DEVICE IN ACTION - RIVER LEA RECORDED AND ANALYSED



The balls are designed for a clear objective: record and analyse the river lea. The balls are made out of thin steel rods attached with 3d printed corners. Inside this comes latex balloons which have sensors inside of them. The latex protects the sensors from water, makes the device floatable and light enough to allow water flow to carry the balls. The device has a central aspect which is the anchor and base, and from that 11 balls are attached to it using a pulley and string system. Once the device is placed in the river the 11 balls move with the flow of the water and record the river. The path of the balls shows water flow movement, and the sensors also record: speed, obstruction, and more. Interpretation of this data is then taken into a coded MATLAB script which translates the sensors' data into the information needed (water path, speed, O2 levels, River damn intensity). As shown in the images here show the device in action. The 11 balls moved smoothly in the river lea and took in the recordings perfectly.

CHAPTER 4

THE EQUINOX

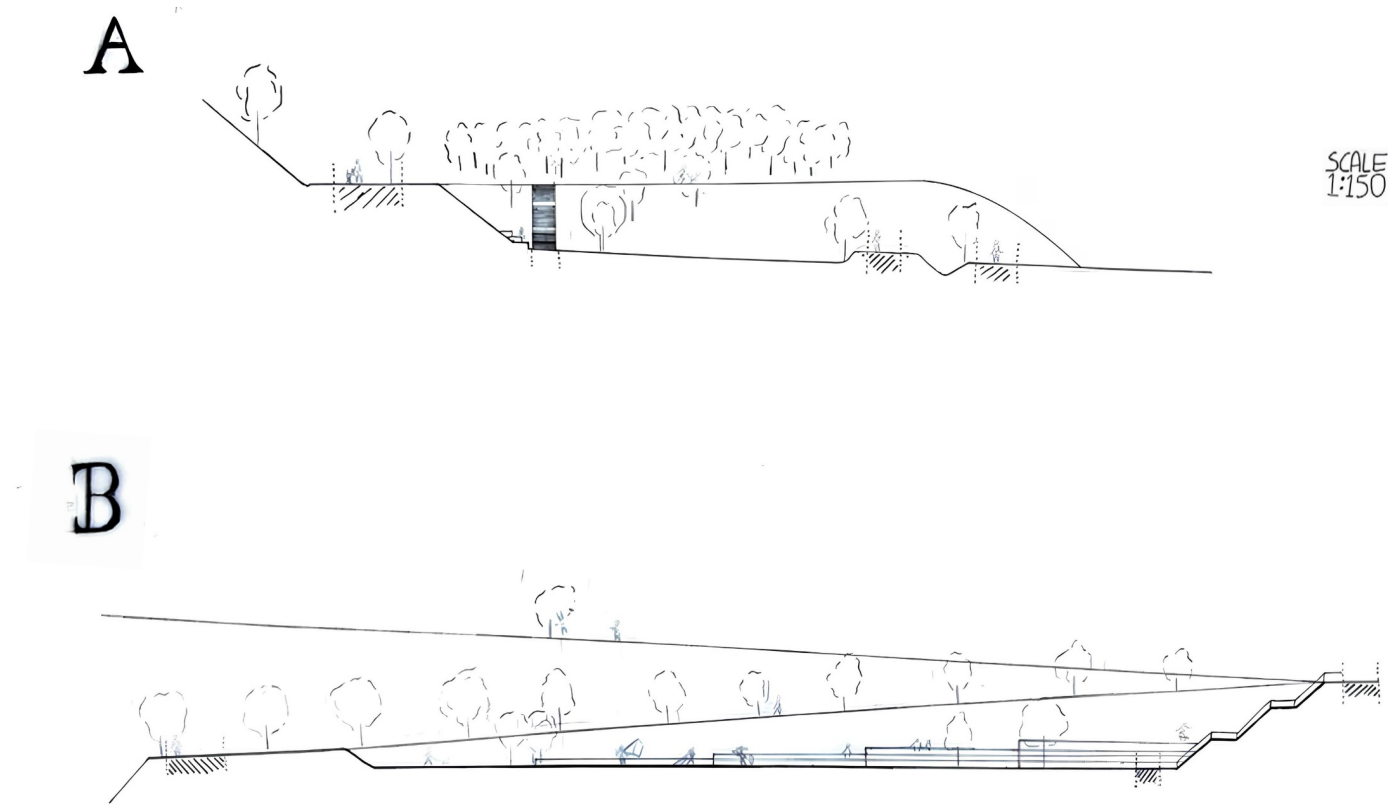
THE EQUINOX: A SYMBOL OF TRANSITION, REBIRTH, AND BALANCE IN NATURE. THE EQUINOX MARKS THE MOMENT THE SUN CROSSES THE CELESTIAL EQUATOR, RESULTING IN COMPLETE BALANCE BETWEEN DAY AND NIGHT.

THE PURPOSE OF THIS PAVILION IS TO PORTRAY THE BETRAYAL OF BALANCE BETWEEN HUMAN AND NATURE. EACH OF THE 282 PROSTHETIC HANDS CREATED SYMBOLISE THE WEIGHT OF PEOPLES' ACTIONS. AS A PERSON GOES THROUGH LIFE (WALK THROUGH THE PAVILION) THEIR INTERACTIONS WITH NATURE INCREASE AND WEIGH MORE, CREATING A TIGHTER SPACE FOR THEM TO CRAWL THROUGH OUR INSTALLATION. THIS SHOWS HOW PEOPLES' ACTIONS DAMAGE NATURE. EXTRA PROSTHETICS ON THE BED SHOW THE IRONY OF HOW PEOPLE RETURN TO NATURE WHEN THEY ARE BURIED. AT THE END OF THE TUNNEL PEOPLE EXIT THE PAVILION FACING THE HORIZON, WHICH TELLS PEOPLE THAT THERE IS STILL HOPE FOR THE WORLD TO CHANGE, AND TRUE BALANCE COULD BE ACHIEVED.



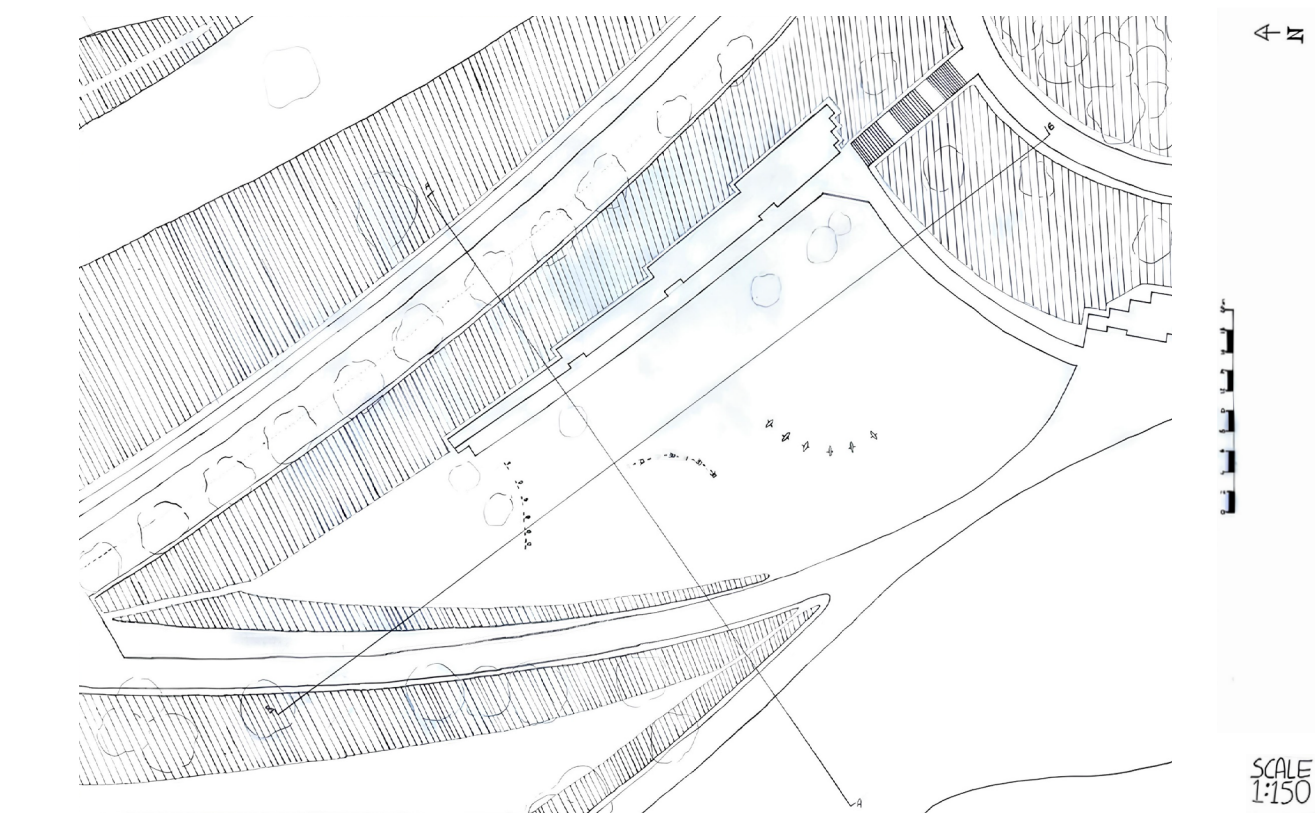
SITE INTERPRETATION - FOR THE PAVILION OF TRUE BALANCE

SITE SECTIONS



Site sections are drawn out to firstly look at user visibility (specifically focusing on people walking by in the park). The sections also look into accessibility to the pavilion's site, and human interaction in the area. This tries to simulate an accurate representation of how people interact with the current site, and how they could be interacting with the designed pavilion.

SITE MAP



This site map shows initial planning and staging of the pavilion. User motion is simulated and the most frequent paths are drawn, based on my initial experience of the site. The site is located in The Elizabeth Olympic Park, Stratford, which shows an area of nature within a densely urban city. True balance between Human and Nature could be achieved.

THE PAVILION - BALANCE BETWEEN HUMAN INTERFERENCE AND NATURE



SCAMBI - A VENETIAN LEGEND

A SYSTEM OF NEGOTIATED VALUE.

SCAMBI IS A STRATEGIC BOARD GAME THAT INVESTIGATES VALUE AS SOMETHING UNSTABLE, RELATIONAL, AND CONTINUOUSLY RENEGOTIATED. CONCEIVED AS BOTH AN ARTEFACT AND A SYSTEM, THE PROJECT RETHINKS THE CONVENTIONS OF COMPETITIVE GAMEPLAY BY REPLACING FIXED VICTORY CONDITIONS WITH FLUCTUATING STATES OF EXCHANGE, SACRIFICE, LEVERAGE, AND IMBALANCE. RATHER THAN REWARDING ACCUMULATION, SCAMBI PRODUCES SHIFTING DEPENDENCIES BETWEEN PARTICIPANTS, COMPELLING PLAYERS TO NEGOTIATE, WITHHOLD, CONCEDE, AND RECALIBRATE THEIR POSITIONS IN RESPONSE TO OTHERS.

THE PHYSICAL BOARD IS CONCEIVED AS A SCULPTED LANDSCAPE RATHER THAN A FLAT FIELD, EMBEDDING CIRCULATION, OBSTRUCTION, AND CONVERGENCE DIRECTLY INTO ITS GEOMETRY. CARDS, TOKENS, AND RULE MECHANICS OPERATE NOT AS ISOLATED COMPONENTS BUT AS INSTRUMENTS WITHIN A LARGER CHOREOGRAPHY OF DECISION-MAKING. EVERY ACTION ALTERS THE FIELD FOR ALL PARTICIPANTS; NO MOVE IS NEUTRAL. OUTCOMES ARE NEITHER PURELY INDIVIDUAL NOR FULLY COLLECTIVE, BUT EMERGE FROM THE TENSION BETWEEN THE TWO.

AT ITS CORE, SCAMBI IS LESS A GAME ABOUT WINNING AND MORE A STRUCTURED EXPLORATION OF EXCHANGE. IT TREATS VALUE NOT AS A MEASURABLE QUANTITY BUT AS A NEGOTIATED CONDITION SHAPED BY PERCEPTION, TIMING, AND RISK. THROUGH ITS MATERIAL PRESENCE AND PROCEDURAL LOGIC, THE PROJECT EXAMINES HOW SYSTEMS OF INTERACTION GENERATE HIERARCHY, CONFLICT, AND TEMPORARY EQUILIBRIUM — REVEALING NEGOTIATION ITSELF AS THE PRIMARY ENGINE OF PLAY.

ATTACHED HERE IN THE CODE IS A LINK TO THE SCAMBI WIKIPEDIA PAGE. AN OFFICIAL PAGE HAS BEEN MADE TO SHOW OFF SCAMBI, ITS NARRATIVE, AND IMPORTANCE



SCAMBI IN ACTION - GAME PLAYED AND ANALYSED



Scambi operates through a structured sequence of negotiated exchanges governed by a rotating central mechanism and a layered set of extractions. Players draw, trade, sacrifice, or withhold resources, with each decision recalibrating the balance of power across the table. The game integrates three key extractions: human behaviour, ledgers, and the large territorial map. Human behaviour becomes an active variable — hesitation, alliance, aggression, and trust directly shape outcomes. The ledgers function as a visible record of debt, sacrifice, and leverage, transforming memory into measurable consequence. The large map situates each exchange within a broader spatial condition, where local decisions ripple across a shared field. Together, these components ensure that no action remains isolated; every move restructures the system for all participants.

The barcode attached below links directly to the game's rulebook and operational manual, detailing its mechanics and framework in full.



CHAPTER 6
MORE WORKS

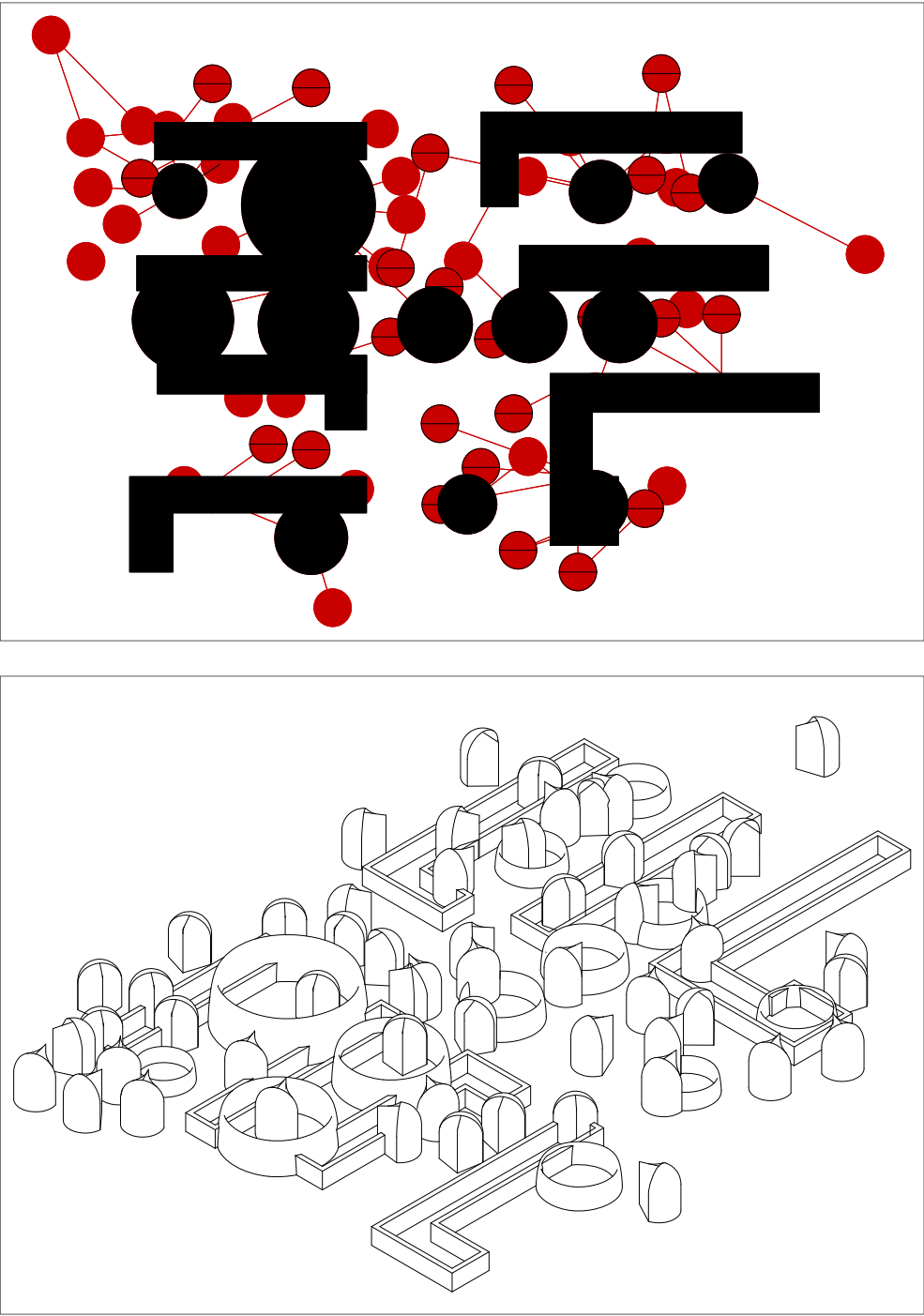
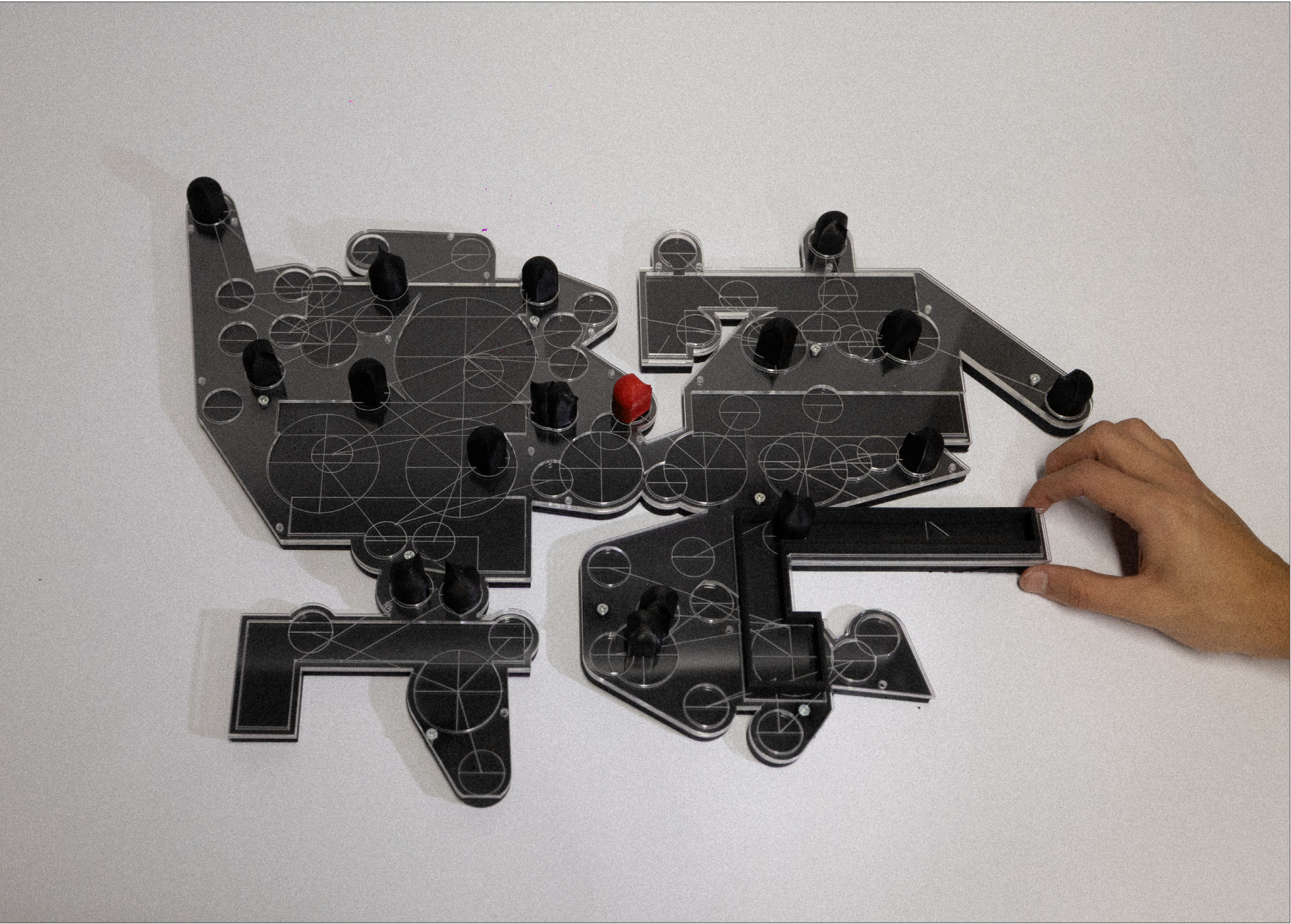
THIS SECTION PRESENTS TWO EXPLORATORY DESIGN WORKS DEVELOPED.

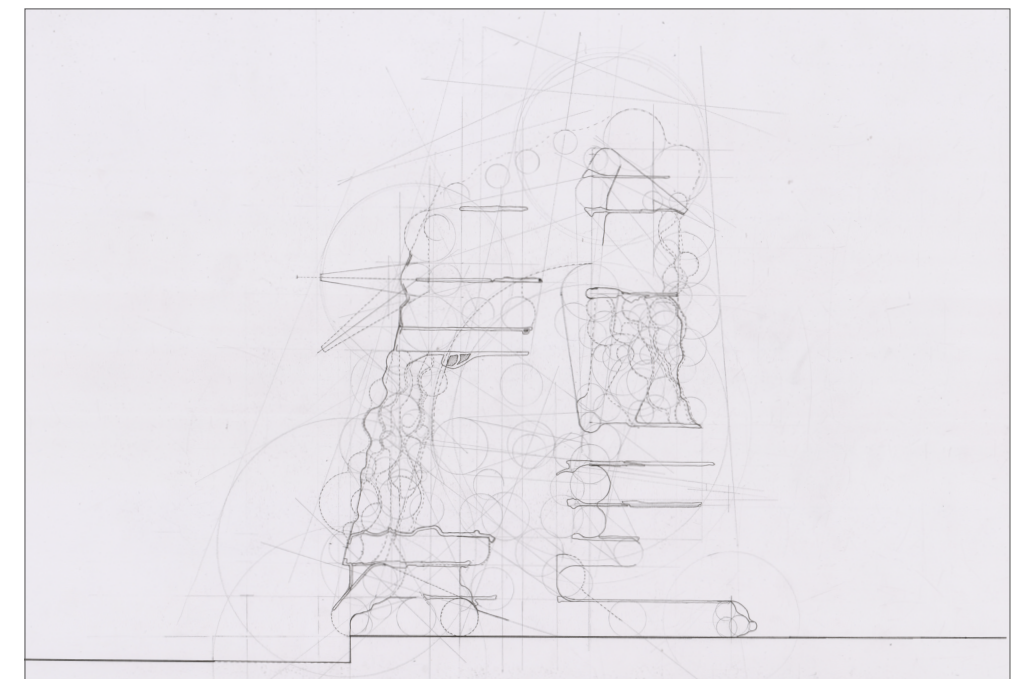
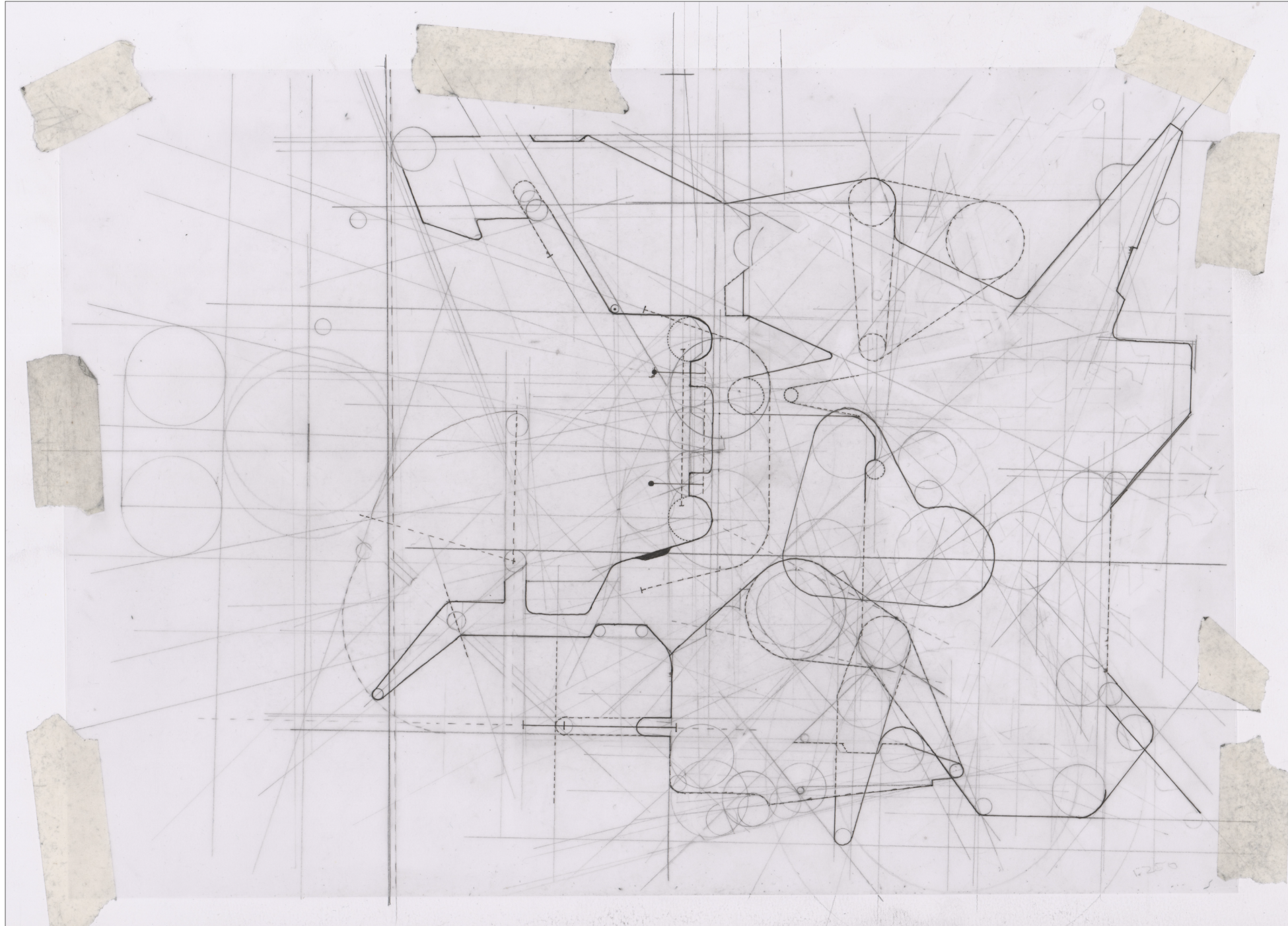
THE FIRST IS A STACKING MODEL DERIVED FROM THE ANALYSIS OF TWO DISTINCT MARKET CONDITIONS AND THE INVISIBLE FORCES GOVERNING THEM — CIRCULATION, HIERARCHY, COMPETITION, AND DEPENDENCY. THE MODEL WAS STRUCTURED AROUND A CENTRAL QUESTION: WHAT HAPPENS WHEN TWO MARKETS ARE FORCED TO CO-EXIST WITHIN THE SAME SPATIAL FRAMEWORK? THROUGH PHYSICAL LAYERING AND SPATIAL COMPRESSION, THE STUDY EXTRACTED FOUR SITUATIONAL OUTCOMES, REVEALING HOW PROXIMITY GENERATES CONFLICT, OVERLAP, ADAPTATION, OR DOMINANCE.

THE SECOND WORK CONSISTS OF HAND-DRAWN SPECULATIVE PLANS, SECTIONS, AND CORE STUDIES. THESE IDEATION DRAWINGS OPERATE AS EARLY-STAGE EXPLORATIONS OF SPATIAL ORGANISATION AND VERTICAL NEGOTIATION, SERVING AS INITIAL CONCEPTUAL PROBES INTO THE DESIGN OF A TOWER IN VENICE CENTRED ON DECISION-MAKING AND EXCHANGE. RATHER THAN RESOLVED PROPOSALS, THESE DRAWINGS CAPTURE A MOMENT OF TESTING — WHERE STRUCTURE, CIRCULATION, AND HIERARCHY BEGIN TO BE INTERROGATED THROUGH LINE AND SPECULATION.



STACKING OF MARKETS - RIALTO MARKET AND THE DJENNE MARKET



IDEATION DRAWINGS - SPECULATIVE BUILDING PLAN, SECTION, & CORE

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